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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,628	07/02/2003	Varadarajan Srinivasan	P197/WLP	4351

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WILLIAM L. PARADICE, III
4880 STEVENS CREEK BOULEVARD
SUITE 201
SAN JOSE, CA 95129

EXAMINER	
WU, JIANYE	
ART UNIT	PAPER NUMBER
2609	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/21/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/613,628	SRINIVASAN ET AL.	
	Examiner	Art Unit	
	Jianye Wu	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/11/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 12/11/2006 was filed after the mailing date of the 10/613628 on 07/02/2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings Objections

The drawings are objected to because of the problems addressed in the "Notice of Draftperson's Patent Drawing Review" (PTO-948 form). Correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claim 1, 3,** and **15** are rejected under 35 U.S.C. 102(b) as being anticipated by Blake et al, "An Architecture for Differentiated Services", RFC 2475, December, 1998, herein after being referenced as Blake et al.

Regarding **Claim 1**, Blake et al discloses a traffic management processor (Figure 1, page 16) for independently throttling the bandwidth of individual traffic flows, comprising:

an instruction decoder (Classifier in Figure 1, page 16), having an input to receive a throttle control instruction identifying a flow identification ID (DS codepoint, 3rd bullet in page 3, or page 4) of a particular traffic flow to be throttled, and having an output (the output from Classifier to Meter in Figure 1, Page 16) to provide a throttle enable signal; and

a departure time calculator circuit (the combination of Meter and Marker in Figure 1, Page 16) having an input to receive the throttle enable signal (the input from Marker to Shaper/Dropper in Figure 1, Page 16) and configured to calculate a departure time (Shaper/Dropper in Figure 1, Page 16) for the incoming packet in response to size and bandwidth parameters associated with the incoming (Metering, page 6).

Regarding **claim 3**, Blake et al discloses the traffic management processor of Claim 1 (as applied to claim 1 above), wherein the throttle control instruction further comprises a specified traffic type indicator (DS codepoint in page 4) that indicates which type of traffic is be throttled.

Regarding **claim 15,** Blake et al discloses a method for selectively throttling any number of traffic flows, comprising:

receiving an incoming packet including a flow ID (DS codepoint in page 4), the flow ID indicating to which traffic flow the incoming packet belongs;

receiving a throttle control instruction (the output of Marker in Figure 1, page 16) including a specified flow ID indicating which traffic flow is subject to throttling;

comparing the specified flow ID with the incoming packet's ID to generate a throttle enable signal (the output from Classifier to Meter in Figure 1, page 16); and

selectively delaying transmission of the incoming packet in response to the throttle enable signal (the output from Marker in Figure 1, page 16).

4. **Claim 9-10** and **12-14** are rejected under 35 U.S.C. 102(b) as being anticipated by Heinanen et al, "A Single Rate Three Color Marker", RFC 2697, September 1999.

Regarding **claim 9**, Heinanen et al discloses a method for selectively throttling (function of Marker, Figure in Page 2), individual traffic flows, comprising:

receiving an incoming packet including a BMF and a flow ID (DS field, second paragraph from the bottom of Section 1, page 2, both BMF and ID are interpreted as independent numbers to be stored in DS which has space to hold more than one number), the flow ID (color of packet, second paragraph from the bottom of Section 1, page 2), indicating to which traffic flow the incoming packet;

receiving a throttle control instruction field (Result, the Figure in page 2) specifying which traffic flow is subject to throttling;

determining whether the incoming packet is part of the traffic flow specified by the throttle control instruction (Color-Aware procedure, last set of bullets in page 3); and

selectively delaying transmission of the incoming packet in response to the determining (Color-Aware procedure, last set of bullets in page 3).

Regarding **claim 10**, the method of Claim 9 (as applied to claim 9 above), wherein the determining comprises: comparing a specified flow ID (color of packet, second paragraph from the bottom of Section 1, page 2) provided by the throttle control instruction with the flow ID from the incoming packet (Color-Aware procedure, last set of bullets in page 3).

Regarding **claim 12**, Heinanen et al discloses the method of Claim 9 (as applied to claim 9 above), wherein the throttle control instruction further specifies which types of traffic are subject to throttling (Color-Aware procedure, last set of bullets in page 3).

Regarding **claim 13**, Heinanen et al discloses the method of Claim 12 (as applied to claim 12 above), further comprising:

ascertaining whether the incoming packet is of the traffic type specified in the throttle control instruction (Color-Aware procedure, last set of bullets in page 3).

Regarding **claim 14**, Heinanen et al discloses the method of Claim 13 (as applied to claim 13 above), wherein the ascertaining comprises:

comparing a traffic type indicator specified by the throttle control instruction with a traffic type indicator corresponding to the incoming packet.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

> 1. Determining the scope and contents of the prior art.
> 2. Ascertaining the differences between the prior art and the claims at issue.
> 3. Resolving the level of ordinary skill in the pertinent art.
> 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 2, 4-7, and **27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Blake et al, "An Architecture for Differentiated Services", RFC 2475, December, 1998 in view of Heinanen et al, "A Single Rate Three Color Marker", RFC 2697, September 1999.

Regarding **claim 2**, it is based on claim 1, wherein DTC circuit is configured to calculate departure time of incoming packets by selectively multiplying a BMF.

Blake et al discloses everything in claim 1, but fails to teach specific way of metering (deciding departure time for each packet), including selectively using BMF to calculate departure time of packets.

Heinanen et al discloses a way of metering (srTCM in Color-Aware mode, 3rd paragraph from the bottom in page 3) an incoming packet based on bandwidth parameters CIR, CBS, EBS (Abstract Section in page 1) and the color of the packet (First paragraph of Section 1 in page 1). The departure time of outgoing packet is then adjusted according to the color of the packet. This is equivalent to multiplying a BWF in that the departure time of packet is adjusted. Following the engineering design expedient, the colored traffic can either be put in different transmit queues, or put on a single transmit queue with departure time being adjust by multiplying different factors (such as 1, 2, and 3) for traffic with different colors.

Blake et al is explicitly cited as one of the references (Last reference in Page 6) in Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Blake et al with Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Regarding **claim 4**, Heinanen et al further discloses the traffic management processor of Claim 3, wherein throttle control instruction further comprises a mode signal (mode which can be Color-Blind or Color-Aware, second paragraph of page 3) that can be set to a state that causes the DTC circuit to alter the packer's departure time, regardless of the packet's flow ID or traffic type (Color-Blind mode, page 3).

The combination of Blake et al and Heinanen et al taught everything in claim 3, Heinanen et al further discloses additional embodiments in claim 4 as described above.

Blake et al is explicitly cited as one of the references (Last reference in Page 6) in Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Blake et al with Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Regarding **claim 5**, the traffic management processor of Claim 1, further comprising a departure time table coupled to the DTC circuit and having a plurality of rows, each for storing the departure time of a corresponding packet;

Blake et al discloses everything in claim 1, but fails to explicitly teach the departure time table structure.

However, the outgoing packets that cannot be transmit right away are put on a queue associated with marker (3rd paragraph of Section 2.3.2, page 15 of Blake et al) that is drained in at the rate of physical transmit channel. The transmit queue associated with marker is equivalent to the departure time table coupled to the DTC circuit, and packets on the queue are corresponding to rows of the departure time table, with their positions on the queue equivalent to the departure time of the corresponding packets.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to use the traffic management processor comprising a table for departure time because that the transmit queue associated with marker is equivalent to the departure time table coupled to the DTC circuit, and packets on the queue are corresponding to rows of the departure time table, with their positions on the queue equivalent to the departure time of the corresponding packets.

Regarding **claim 6**, Blake et al discloses a traffic management processor comprising: an instruction decoder (Classifier in Figure 1, page 15) for receiving a throttle control instruction that specifies which traffic flows are to be throttled, and having an output to provide a throttle enable signal (the output from Classifier to Meter in Figure 1, page 15); and a DTC circuit for calculating a departure time for the incoming packet (the combination of Meter and Marker in Figure 1, page 15).

Blake et al fails to disclose that DTC calculate a departure time in response to packet size and bandwidth parameters associated, as well as using BMF.

Heinanen et al discloses a way of metering (srTCM in Color-Aware mode, 3rd paragraph from the bottom in page 3) an incoming packet based on on its size (packet

of size B, 3rd paragraph from bottom in page 3) and bandwidth parameters (Tc and Te, second paragraph in page 3, and CIR, CBS, and EBS, Abstract Section in page 1) and the color of the packet (First paragraph of Section 1 in page 1). The departure time of outgoing packet is then adjusted according to the color of the packet. This is equivalent to multiplying a BWF in that the departure time of packet is adjusted. Following the engineering design expedient, the colored traffic can either be put in different transmit queues, or put on a single transmit queue with departure time being adjust by multiplying different factors (such as 1, 2, and 3) for traffic with different colors

Blake et al is explicitly cited as one of the references (Last reference in Page 6) in Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Blake et al with Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Regarding **claim 7**, the traffic management processor of Claim 6, wherein packet includes a flow identification identifying the packet's traffic flow.

The combination of Blake et al and Heinanen et al disclose the traffic management processor of Claim 6 (as applied to claim 6 above), Blake et al further discloses a flow identification identifying the packet's traffic flow (DS codepoint in page 4).

Blake et al is explicitly cited as one of the references (Last reference in Page 6) in Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Blake et al with Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Regarding **claim 8**, the traffic management processor of Claim 6, wherein the throttle control instruction specifies which types of traffic are to be throttled.

The combination of Blake et al and Heinanen et al disclose the traffic management processor of Claim 6 (as applied to claim 6 above), Blake et al further discloses a flow identification identifying the packet's traffic flow (DS codepoint in page 4).

Blake et al is explicitly cited as one of the references (Last reference in Page 6) in Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Blake et al with Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Regarding **claim 11**, Heinanen et al discloses the method of Claim 9 (as applied to claim 9 above), wherein the selectively delaying comprises:

receiving packet size (packet of size B, 3rd paragraph from bottom in page 3) and bandwidth parameters for the incoming packet (Tc and Te, second paragraph in page 3, and CIR, CBS, and EBS, Abstract Section in page 1); and

calculating a departure time for the incoming packet in response to the size and bandwidth parameters (Color-Aware procedure, last set of bullets in page 3).

Heinanen et al fails to explicitly disclose selectively multiplying the bandwidth parameter by the BMF in response to the determining;

Heinanen et al discloses a way of metering (srTCM in Color-Aware mode, 3rd paragraph from the bottom in page 3) an incoming packet based on bandwidth parameters and the color of the packet (First paragraph of Section 1 in page 1). The departure time of outgoing packet is then adjusted according to the color of the packet. This is equivalent to multiplying a BWF in that the departure time of packet is adjusted. Following the engineering design expedient, the colored traffic can either be put in different transmit queues, or put on a single transmit queue with departure time being adjust by multiplying different factors (such as 1, 2, and 3) for traffic with different colors.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to selectively multiplying the departure time by the BMF because of engineering design expedient.

Regarding **claim 16**, Blake et al discloses everything in the method of Claim 15 (as applied to claim 15 above), but fails to disclose calculating a departure time for the incoming packet in response to size and bandwidth parameters corresponding to the incoming packet, wherein the bandwidth parameter is selectively multiplied by a BMF.

Heinanen et al discloses a way of metering (srTCM in Color-Aware mode, 3rd paragraph from the bottom in page 3) an incoming packet based on bandwidth parameters CIR, CBS, EBS (Abstract Section in page 1) and the color of the packet (First paragraph of Section 1 in page 1). The departure time of outgoing packet is then adjusted according to the color of the packet. This is equivalent to multiplying a BWF in that the departure time of packet is adjusted. Following the engineering design expedient, the colored traffic can either be put in different transmit queues, or put on a single transmit queue with departure time being adjust by multiplying different factors (such as 1, 2, and 3) for traffic with different colors.

Blake et al is explicitly cited as one of the references (Last reference in Page 6) in Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Blake et al with Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Regarding **claim 17**, the method of Claim 16, wherein the throttle control instruction further specifies which types of traffic are subject to throttling.

The combination of Blake et al and Heinanen et al disclose everything in the method of Claim 16 (as applied to claim 16 above), Heinanen et al further discloses the throttle control instruction further specifies which types of traffic (colors of packets, second paragraph from the bottom of Section 1, page 2) are subject to throttling.

Heinanen et al is disclosed within the framework taught by Blake et al, which is explicitly cited as one of the references in Heinanen et al.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Blake et al with Heinanen et al because Blake et al is explicitly cited as one of the references in Heinanen et al.

Regarding **claim 18**, the combination of Blake et al and Heinanen et al disclose everything in the method of Claim 17 (as applied to claim 17 above). Heinanen et al further discloses that in the method of Claim 17:

determining whether the incoming packet is of the traffic type (color of the packet, second paragraph from the bottom of Section 1, page 2) specified by the throttle control instruction; and

selectively asserting the throttle enable signal in to the determining (Color-Aware procedure, last set of bullets in page 3).

Blake et al is explicitly cited as one of the references (Last reference in Page 6) in Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to combine Blake et al with Heinanen et al because Heinanen et al is written under the framework taught by Blake et al for easy implementation.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianye Wu whose telephone number is (571)270-1665. The examiner can normally be reached on Monday to Friday, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on (571)272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

1/19/07

ELISEO RAMOS-FELICIANO
SUPERVISORY PATENT EXAMINER